

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DIETER UNRATH  
and  
MARGIT HOFMANN

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Appeal No. 1999-1332  
Application No. 08/591,857

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ON BRIEF

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Before COHEN, STAAB, and NASE, *Administrative Patent Judges*.  
STAAB, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This is a decision on an appeal from the final rejection of claims 1-14, all the claims pending in the application.

Appellants' invention relates to cassette filters, and in particular to cassette filters comprising a case surrounding a dimensionally stable filter pack in a dust-tight manner (specification, page 1). As further explained on page 2 of

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appellants' specification:

The present invention is based on the realization that the dimensional stability of conventional filter packs and the adhesive layers required in any event for affixing the filter pack to the case in a dust-tight manner obviates the need to use a case which itself is dimensionally stable. Consequently, according to the present invention, the case obtains dimensional stability only by being cemented to the filter pack by means of secondary adhesive layers. This, surprisingly, provides good overall stability even though, considered by themselves alone, neither the filter pack nor the case is particularly dimensionally stable. In this manner, the cost of producing a cassette filter according to the invention is considerably reduced.

Claim 1 is exemplary of the appealed subject matter and reads as follows:

1. A cassette filter comprising:

a dimensionally stable filter pack; and

a cylindrical case that surrounds the filter pack in a dust-tight manner, said case comprising flat sheets that are cemented to one another and to the filter pack via adhesive layers, said sheets alone not having enough mechanical strength to provide a cassette that is dimensionally stable, but having in combination with the adhesive layers and filter pack sufficient strength for this purpose;

wherein the sheets are fixed in position via their connection to the filter pack.

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The references applied by the examiner in the final  
rejection are:

Rogers	3,397,518	Aug. 20, 1968
Wasielewski et al. (Wasielewski)	4,227,953	Oct. 14, 1980
Allan et al. (Allan)	4,685,944	Aug. 11, 1987
Bub et al. (Bub)	790,181	Feb. 5, 1958
(published British Patent Application)		
Withrington	GB 2 103 106 A	Feb. 16, 1983
(published United Kingdom Patent Application)		
Lippold <sup>1</sup>	EP 0 382 329 A1	Aug. 16, 1990
(published European Patent Application)		

The following rejections under 35 U.S.C. § 103(a) are  
before us for review:

(a) claim 1, unpatentable over Allan in view of  
Wasielewski and Lippold;

(b) claims 2 and 3, unpatentable over Allan in view of  
Wasielewski, Lippold, and Rogers;

(c) claims 4 and 6-10, unpatentable over Allan in view of  
Wasielewski, Lippold, and Bub;

(d) claim 5, unpatentable over Allan in view of

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<sup>1</sup>Our understanding of this German language patent document is derived from a translation thereof prepared in the Patent and Trademark Office. A copy of the translation is attached to this decision.

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Wasielewski, Lippold, Rogers, and Bub; and

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(e) claims 11-14, unpatentable over Allan in view of Wasielewski, Lippold, and Withrington.

Reference is made to appellants' brief (Paper No. 13) and to the examiner's answer (Paper No. 14) for the respective positions of appellants and the examiner regarding the merits of these rejections.

#### *Opinion*

Upon review of the teachings of the applied references and the respective positions of the examiner and appellants, it is our opinion that the standing rejections are not sustainable. Our reasons follow.

Allan, the primary reference in each of the rejections, pertains to an air filter comprising a filter pack 22 surrounded by a relatively thin and lightweight frame 32 comprising four sides 34-37. The frame is composed of a relatively hard, air impermeable molded material, such as plastic or fiberglass (column 4, lines 34-40). The method of fabricating the frame is described at column 4, line 60, through column 5, line 45. Briefly, a mold 45 containing a moldable liquid 44 which is adapted to set and form the

relatively hard, air impermeable frame is provided, and an edge of the filter pack 22 is immersed in the liquid (see, for example, Figure 3). The liquid is permitted to set to thereby form a relatively hard, air impermeable frame side. The filter pack is then turned and the process repeated to form the other sides of the frame.

Wasielewski, the secondary reference in each of the rejections, is directed to a method of fabricating an air filter comprising a filter core and a box-like frame usually made of plywood, heavy cardboard, or sheet metal (column 1, lines 25-27). The method of fabricating is described at column 3, line 19, through column 4, line 36. In Wasielewski, strips 34 and 36 are secured to end plate 24 by convenient means such as staples (column 3, lines 22-27), whereafter temporary walls are then formed along the front and rear edges of the end plate with convenient, expendable materials such as two strips of pressure-sensitive tape to form a shallow pan-like structure (column 3, lines 33-44). A liquid adhesive 48 is then poured into the pan-like structure (column 3, lines 44-48). A core subassembly comprising a filter core 12 having

frame side plates 58 and 60 adhesively attached thereto (column 4, lines 6-9) is then immersed in the adhesive 48 and when the adhesive hardens, the tapes are removed, leaving the pleated edge of the filter core encapsulated in the adhesive and the end plate 24 secured to the core subassembly (column 4, lines 24-28). The unit is then inverted and end plate 66 is secured to the core subassembly in the same manner (column 4, lines 28-36). In the completed air filter, the notched ends of the side plates 58 and 60 receive the strips of the end plates (column 4, lines 15-20; Figure 5).

Lippold, the tertiary reference in each of the rejections, is mentioned in appellants' specification (page 7, lines 17-18) and is representative of the type of dimensionally stable filter pack that may be used in the practice of the present invention. Lippold contains no details concerning the frame of a cassette filter utilizing the filter pack disclosed therein.

Considering first the standing rejection of claim 1, the examiner concedes (answer, page 4) that Allan does not meet the requirements of the third paragraph of claim 1 regarding

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the case surrounding the filter pack. The examiner has taken  
the position, however, that

[i]t would have been obvious to someone  
of ordinary skill in the art at the time  
of the invention to substitute flat sheets  
adhesively attached to the sides of a filter  
pack as disclosed by Wasielewski et al[.]  
for the frame sides molded in situ to a filter  
pack as disclosed by Allen et al [sic, Allan  
et al.] so that the filter pack is structurally

supported by flat sheets attached to themselves and to the filter pack by adhesive and so that an equivalent thin, lightweight frame is formed around the filter pack. [Answer, page 4.]

Although not expressly stated, it appears to be the examiner's view that the case of the above modified Allan filter would correspond to the case of the claimed device in all respects.

We cannot support the examiner's proposed combination of Allan and Wasielewski. It is crystal clear to us from a reading of the introductory section of Allan's specification (column 1, line 16, through column 2, line 16) that Wasielewski's method of fabricating air filters embodies the very problems Allan hopes to avoid. For example, at column 1, lines 20-29, Allan describes a "significant problem" associated with the disposal of filters that include relatively heavy and rigid wooden or metal frame components, which frame components, in our view, would correspond precisely to the frame components 24, 58, 60, 66 of Wasielewski. Further, at column 1, line 38, through column 2, line 2, Allan describes a "further problem" associated with a method of manufacturing filters that very closely tracks the method employed by Wasielewski, i.e., a method that involves

"building" a rigid frame around a rectangular filter pack by separately adhering each of the four sides of the frame to the edges of the filter pack in a sequential manner. Allan uses words such as "slow," "labor intensive," and "expensive" (column 1, line 40) and "very laborious" and "time consuming" (column 1, line 65) to describe this "building" method. It is a stated objective of Allan to alleviate these problems (column 7, lines 17-21).

The above disclosure in Allan of the disadvantages, for example, of a filter fabricating method that involves "building" a rigid frame around the filter pack, and Allan's stated objective to alleviate these problems, would have acted as a powerful *disincentive* to an artisan to employ the techniques of Wasielewski in Allan. Accordingly, we believe that one of ordinary skill would not have made the sort of substitution proposed by the examiner in combining the teachings of Allan and Wasielewski in the absence of appellants' disclosure. For this reason alone, the standing rejection of claim 1 cannot be sustained.

Concerning the rejections of claims 2-14 that depend

either directly or indirectly from claim 1, we have reviewed the additional references applied by the examiner in these rejections. While these additional references may disclose certain features required by the claims against which they were cited, they do not make up for the basic deficiency in the examiner's combination of Allan and Wasielewski, which is the linchpin of all the standing rejections. Accordingly, the standing rejections of claims 2-14 also cannot be sustained.

*Remand*

This case is remanded to the examiner for consideration of the following matter.

Claim 1 does not require any particular material, or thickness, or mechanical strength, for the flat sheets of the case. Claim 1 requires, *inter alia*, that "said sheets<sup>[2]</sup> alone [do] not hav[e] enough mechanical strength to provide a cassette that is dimensionally stable, but hav[e] in combination with the adhesive layers and filter pack

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<sup>2</sup>According to appellants' disclosure (specification, page 3, lines 1-3), the sheets of the present invention "can consist of any pliable sheeting, for example wood, metal, cardboard and/or plastic."

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sufficient strength for this purpose." The examiner should determine what the differences are between the subject matter of claim 1 and Wasielewski. If the examiner determines that the only difference between the subject matter of claim 1 and Wasielewski is the requirement that the filter pack is "dimensionally stable," the examiner should

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consider whether this difference would have been obvious to one of ordinary skill in the art in view of Lippold, and if so take whatever action is considered appropriate under the circumstances.

*Summary*

The standing rejections of claims 1-14 under 35 U.S.C. § 103(a) are reversed.

This case is remanded to the examiner for the reasons noted above.

The decision of the examiner is reversed.

*REVERSED and REMANDED*

IRWIN CHARLES COHEN	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
LAWRENCE J. STAAB	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	

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JEFFREY V. NASE )  
Administrative Patent Judge )

LJS:hh

RICHARD L. MAYER  
KENYON & KENYON  
ONE BROADWAY  
NEW YORK, NY 10004